

REMARKS

The above-identified application has been carefully reviewed in light of the Office Action mailed on October 7, 2008. Enclosed is a Request for Extension of Time, and required fee, extending the period for responding to the Office Action to and including February 7, 2009.

Without conceding the correctness of any of the Examiner's rejections, applicant has amended the claims to facilitate prosecution of the above-identified application to obtain an early allowance. Applicant expressly reserves the right to seek patent protection for the original claims as well as for all other claims supported by the above-identified application.

Specifically, the present claims have been amended to make clear that a resilient-walled vessel containing a liquid is not a part of the claimed dispensing assembly as recited in claims 106-122. In addition, claim 106 has been amended to recite that the dispensing assembly includes a neck portion including a sidewall structured to engage an interior wall of a resilient-walled vessel containing a liquid. Also, claim 1 has been amended to recite that the tip defines a bore positioned to be in direct communication with an interior of a resilient-walled vessel containing a liquid when coupled to a resilient-walled vessel containing a liquid to provide a linear fluid flow path from an interior of a resilient-walled vessel containing a liquid to the distal end of the tip. Further, claim 1 has been amended to recite that the valve is structured to prevent liquid flow back at zero pressure differential and near zero pressure differentials across the valve.

Claim 124 has been amended to recite a preservative-free liquid and to recite the step of applying sufficient manual pressure to the vessel to dispense a single drop of the liquid.

Each of the amendments is fully supported by the present specification. Therefore, applicant submits that the present claims include no new matter.

Claims 106-111, 113, 115, 116, 118, 119 and 121-124 have been rejected under 35 U.S.C. 102(b) as being anticipated by Ryder et al U.S. Patent 5,154,325 (Ryder et al). Claims 112, 114, 117 and 120 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Ryder et al. Applicant traverses each of these rejections as it pertains to the present claims, as amended.

The present claims recite dispensing assemblies to be coupled to a resilient-walled vessel containing a liquid.

The dispensing assembly of independent claim 106 comprises a neck portion including a sidewall structured to engage an interior wall of a resilient-walled vessel containing a liquid. A tip distally extending from the neck portion is provided which includes a distal end and defines a bore positioned to be in direct communication with an interior of a resilient-walled vessel containing a liquid when coupled to a resilient-walled vessel containing a liquid to provide a linear fluid flow path from an interior of a resilient-walled vessel containing a liquid to the distal end of the tip. A valve is provided at the distal end of the tip. The valve extends substantially coaxially with the bore. The valve is structured to allow drop-wise liquid dispensing from a resilient-walled vessel containing a liquid when the assembly is coupled to a resilient-walled vessel containing a liquid and sufficient manual pressure is applied to a resilient-walled vessel containing a liquid and to prevent liquid back flow at zero pressure differential and near zero pressure differentials across the valve.

The presently claimed dispensing assemblies enable a user to dispense individual drops, for example, a single drop, rather than streams, of a liquid, for example, a preservative-free liquid. The presently claimed dispensing assemblies are capable of drop-wise dispensing over a broad force range, without the need of flow restrictors or other obstructions. The presently claimed dispensing assemblies also include features, such as an anti-microbial liner in a cap of the assembly (claim 114) and a filtration member (claim 118) which reduce or eliminate contamination of the liquid being dispensed, making the use of preservatives in the liquid being dispensed unnecessary. Moreover, the dispensing assemblies of the present invention are straightforward in construction, economic to manufacture, and effective and advantageous in use.

Ryder et al discloses a liquid delivery nozzle device which comprises multiple pieces to form the final nozzle. In particular, the nozzle device disclosed by Ryder et al includes an adapter portion which has a cylindrical wall that projects downwardly into the opening of a liquid container. In the nozzle device of Ryder et al, the adapter supports a separate elastomeric diaphragm 24. The diaphragm includes a tubular nozzle portion which receives and is partially obstructed by a nipple formation of the adapter. See Figs. 1-4 and column 3, lines 4-67 of Ryder et al. The nozzle device of Ryder et al includes a duckbill valve opening at the distal end of the tubular nozzle portion. FIG. 4 and column 4, lines 32-41 of Ryder et al.

Ryder et al discloses an off-center passageway bore which provides a passageway for liquid from the interior of the container through the adapter and into a space outside the container formed by the deflected diaphragm. Ryder et al

discloses that the liquid flows in one direction through the passageway bore, then in a different, inward direction through the space formed by the deflected diaphragm to the tubular nozzle portion and then in another different, obstructed direction to the duckbill valve. This multi-directional fluid flow path of Ryder et al is a tortuous, non-linear, obstructed fluid flow path from the interior of the container to the duckbill valve opening at the top or distal end of the nozzle device.

Applicant submits that Ryder et al does not disclose, teach, or suggest the present invention.

For example, Ryder et al does not disclose, teach, or even suggest a dispensing assembly that comprises a neck portion including a sidewall structured to engage an interior wall of a resilient-walled vessel containing a liquid, and a tip extending distally away from the neck portion including a distal end and defining a bore positioned to be in direct communication with an interior of a coupled resilient-walled vessel containing a liquid to provide a linear fluid flow path from an interior of the resilient-walled vessel containing a liquid to the distal end of the tip, as recited in the present claims.

In direct contrast to the present claims, Ryder et al discloses an off-center passageway bore for flow of liquid out of the interior of a container, a diaphragm creating a fluid pathway portion which is generally inwardly from and perpendicular to the passageway bore, and a nipple formation 30 positioned to again change the direction of fluid flow to the duckbill valve. This structure disclosed by Ryder et al provides a fluid flow path that repeatedly changes directions as the fluid moves from the interior of the container to the duckbill valve.

Ryder et al clearly, directly and expressly teaches away from the presently claimed dispensing assemblies which are structured to provide a linear fluid flow path from an interior of a coupled resilient-walled vessel containing a liquid to the distal end of the tip where a valve is provided, as recited in the present claims.

Furthermore, Ryder et al does not disclose, teach, or even suggest a valve structured to allow drop-wise dispensing from a resilient-walled vessel containing a liquid when the dispensing assembly is coupled to a resilient-walled vessel and which prevents liquid back flow at zero, as well as near zero, pressure differentials across the valve, as recited in claim 1.

In direct contrast, Ryder et al discloses a duckbill valve opening. Importantly, closure of the duckbill valve opening requires a drop in hydraulic pressure. As understood by persons of ordinary skill in the art, and as described in the specification of the above-identified application, duckbill valves do not prevent liquid back flow at zero pressure differential across the valve, and do not allow drop-wise dispensing of liquids since duckbill valves always result in some additional volume of liquid being released other than the desired drop volume.

Ryder et al discloses that the duckbill valve or the entire nozzle and valve column is molded or treated with an antimicrobial component to prevent non-sterile liquid in the nozzle and valve column from re-entering the bottle. The need for an antimicrobial component in the discharge passage of the Ryder et al assembly (see the claims of Ryder et al) to mitigate the presence of non-sterile liquid in the nozzle and valve column of Ryder et al makes clear that the valve of Ryder et al does not prevent liquid back flow at zero pressure differential.

The presently claimed dispensing assembly includes a valve structured to prevent liquid back flow at zero pressure differential and near zero pressure differentials across the valve, as recited in the present claims. Thus, because liquid back flow is prevented, as recited in the present claims, no antimicrobial component is needed in the presently claimed dispensing assembly to maintain liquid inside the assembly sterile. Ryder et al teaches a nozzle device which does not prevent liquid back flow across the disclosed valve and, for this additional reason, Ryder et al teaches directly away from the present claims.

In summary, Ryder et al provides one of ordinary skill in the art with no motivation or incentive, no reasonable or rational basis and no common sense basis for modifying and extending the deficient teachings of Ryder et al to provide a linear fluid flow path from the interior of a resilient-walled vessel containing liquid to the distal end of a tip, as recited in the present claims; and to provide a valve having the characteristics recited in the present claims. As noted above, Ryder et al teaches clearly, directly and expressly away from the present claims.

In view of the above, applicant submits that the present claims, that is claims 106-124, are not anticipated by Ryder et al under 35 U.S.C. 102(b) and are unobvious from and patentable over Ryder et al under 35 U.S.C. 103(a).

Each of the present dependent claims is separately patentable over the prior art. For example, the prior art does not disclose, teach or suggest the dispensing assembly of any of the present claims including the additional feature or features recited in any of the present dependent claims. Therefore,

applicant submits that each of the present claims is separately patentable over the prior art.

In conclusion, applicant has shown that the present claims, that is claims 106-124 are not anticipated by and are unobvious from and patentable over the prior under 35 U.S.C. 102(b) and 35 U.S.C. 103(a). Therefore, applicant submits that the present claims are allowable and respectfully requests the Examiner to pass the above-identified application to issuance at an early date. Should any matters remain unresolved, the Examiner is requested to call applicant's attorney at the telephone number given below.

Respectfully submitted,

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